Top-Level Diagram

SHEET 13-18



SHEET 2-12

SYS

schematic
RFCONV_O(9:0)
RFAUXCONV_O(2:0)
GENIO_O(31:0)
RFICCTRL_O(2:0)
RFCLK_I
SLOWAD_O(6:0)

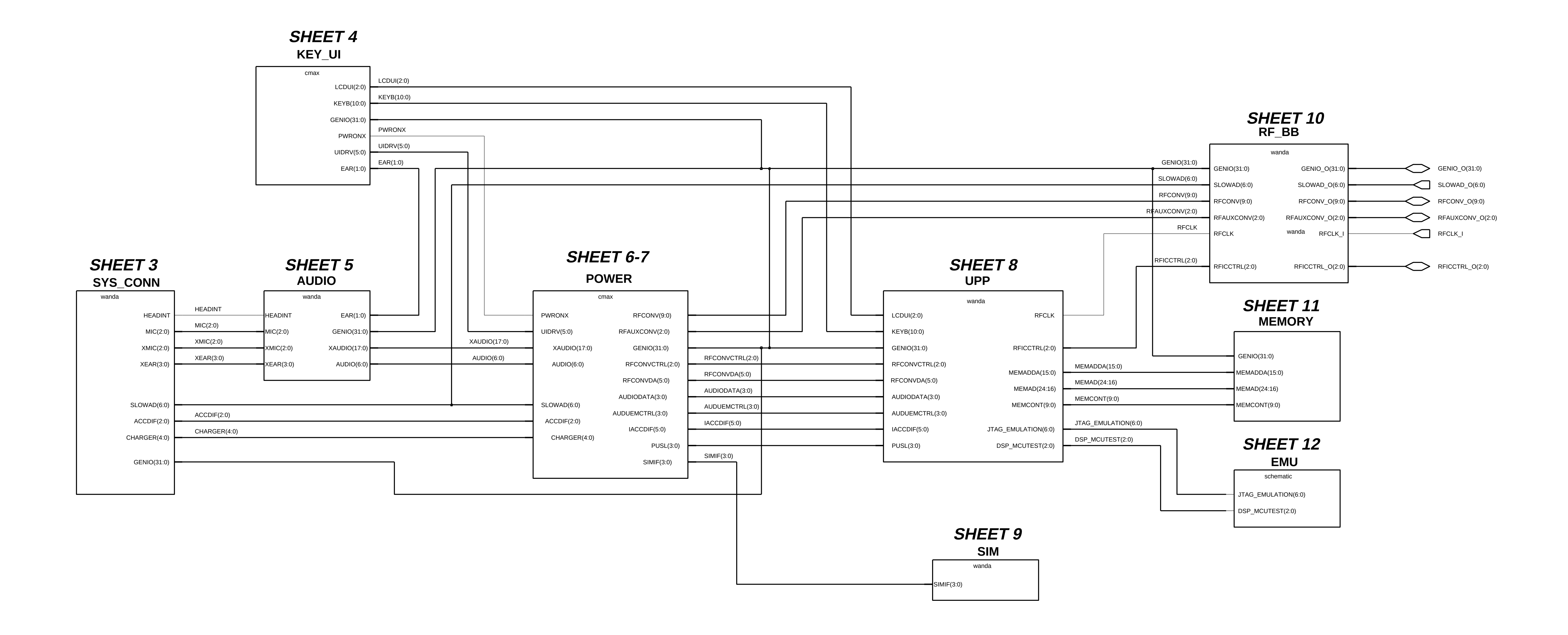
0 RXIINP
1 RXIINN
2 RXQINP
3 RXQINN
4 TXIOUTP
5 TXIOUTN
6 TXQOUTP
7 TXQOUTN
9 VREF1
2 AFC
1 DET_OUT
13 D1 1
12 D2 2
10 D0 0
D(2:0)
26 TXP
9 RX_IF_AGC
8 TX_GATE
7 TX_IF_AGC
2 RFBUSEN1
0 RFBUSCLK
1 RFBUSDA
6 TEMP_SENS

RX_IP
RX_IN
RX_QP
RX_QN
TX_IP
TX_IN
TX_QP
TX_QN
VREFRF01
AFC_DAC
DET_OUT
D(2:0)
TX_RF_AGC
RX_IF_AGC
TX_GATE
TX_IF_AGC
RF_EN1X
RF_CLK
RF_DATA
19.2MHZOUT
TEMP_SENS
ANTENNA

ANTENNA PAD
J615
NA

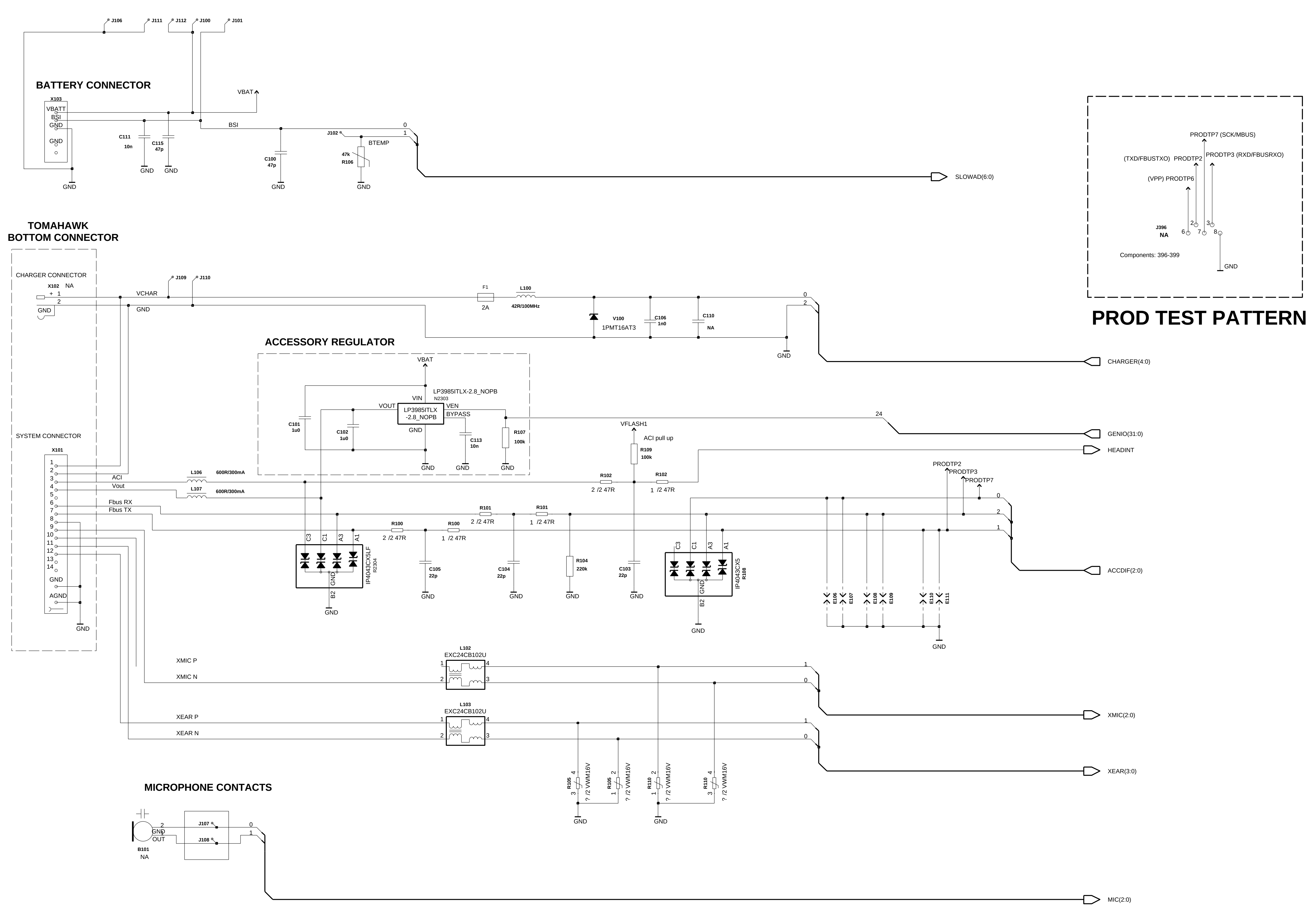
E100
E101
E102
2.0 mm
E105
GND

BB Top Level

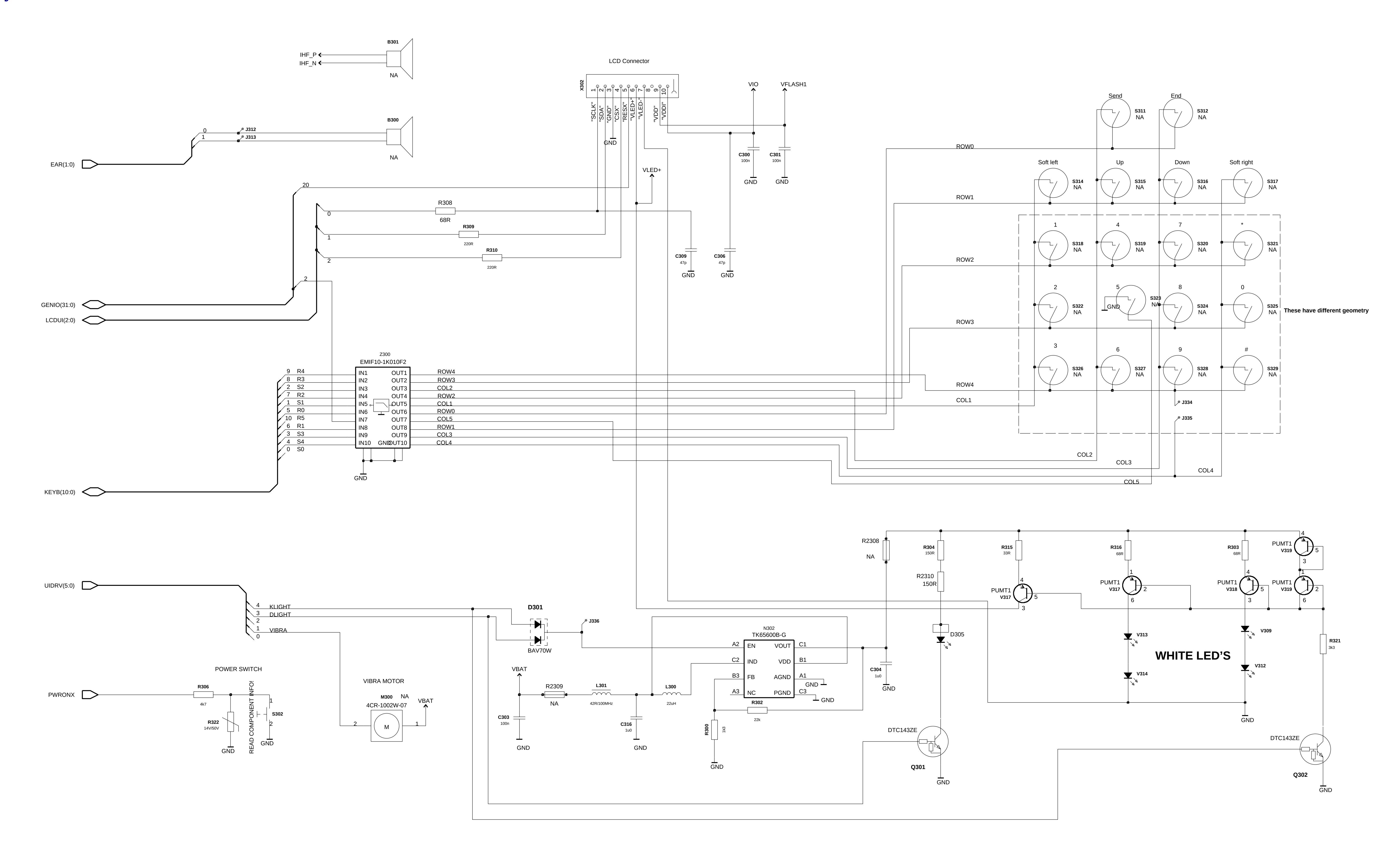


SHEET 4
KEY_UI
cmax
LCDUI(2:0)
KEYB(10:0)
GENIO(31:0)
PWRONX
UIDRV(5:0)
EAR(1:0)
SHEET 10
RF_BB
wanda
GENIO(31:0)
SLOWAD(6:0)
RFCONV(9:0)
RFAUXCONV(2:0)
RFCLK
RFICCTRL(2:0)
GENIO_O(31:0)
SLOWAD_O(6:0)
RFCONV_O(9:0)
RFAUXCONV_O(2:0)
RFCLK_I
RFICCTRL_O(2:0)
SHEET 3
SYS_CONN
wanda
HEADINT
MIC(2:0)
XMIC(2:0)
XEAR(3:0)
SLOWAD(6:0)
ACCDIF(2:0)
CHARGER(4:0)
GENIO(31:0)
SHEET 5
AUDIO
wanda
HEADINT
MIC(2:0)
XMIC(2:0)
XEAR(3:0)
EAR(1:0)
GENIO(31:0)
XAUDIO(17:0)
AUDIO(6:0)
SHEET 6-7
POWER
cmax
PWRONX
UIDRV(5:0)
XAUDIO(17:0)
AUDIO(6:0)
SLOWAD(6:0)
ACCDIF(2:0)
CHARGER(4:0)
RFCONV(9:0)
RFAUXCONV(2:0)
GENIO(31:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
PUSL(3:0)
SIMIF(3:0)
SHEET 8
UPP
wanda
LCDUI(2:0)
KEYB(10:0)
GENIO(31:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
PUSL(3:0)
RFCLK
RFICCTRL(2:0)
MEMADDA(15:0)
MEMAD(24:16)
MEMCONT(9:0)
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
SHEET 11
MEMORY
GENIO(31:0)
MEMADDA(15:0)
MEMAD(24:16)
MEMCONT(9:0)
SHEET 12
EMU
schematic
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
SHEET 9
SIM
wanda
SIMIF(3:0)

System Connector

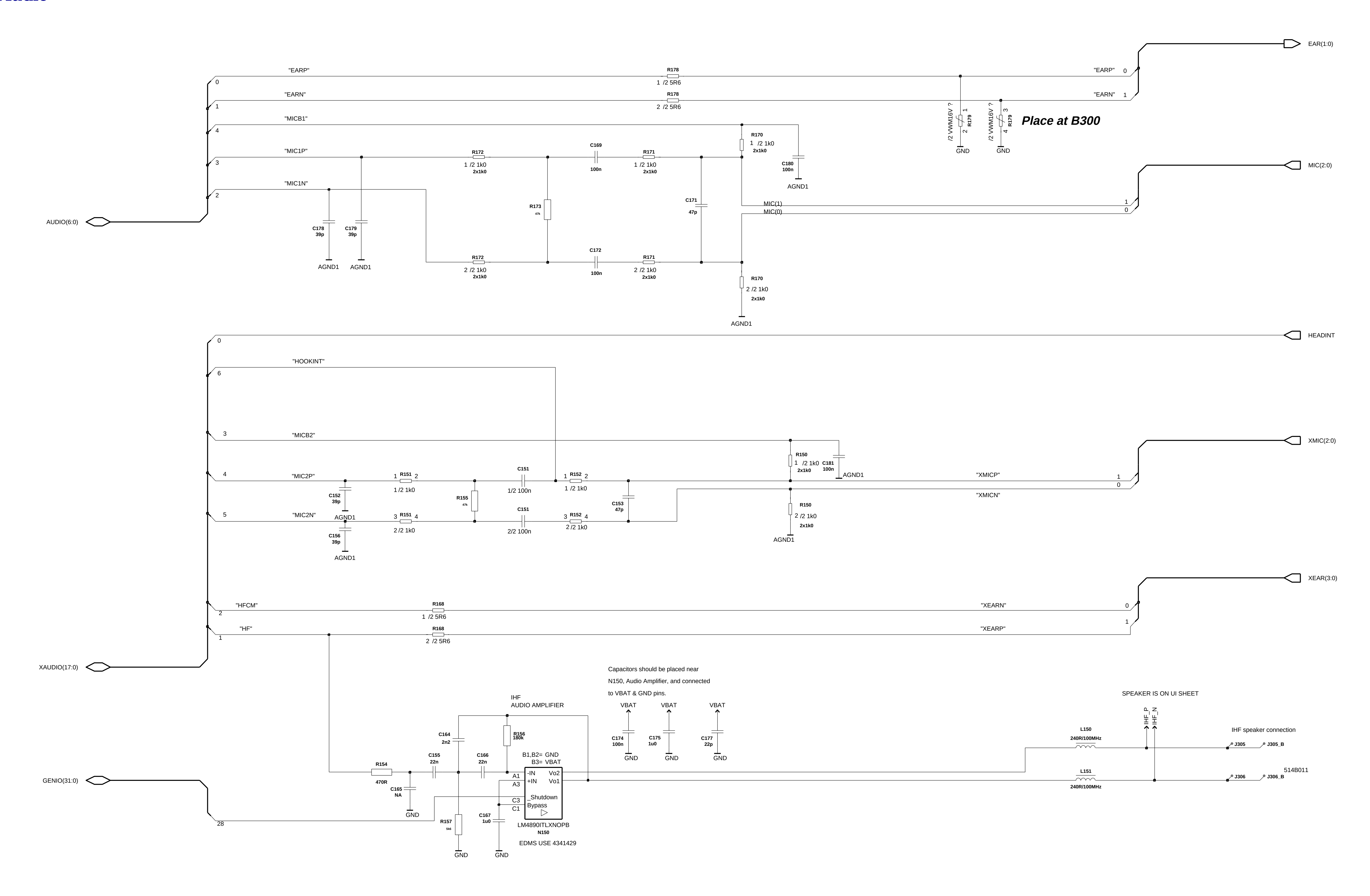


Key UI

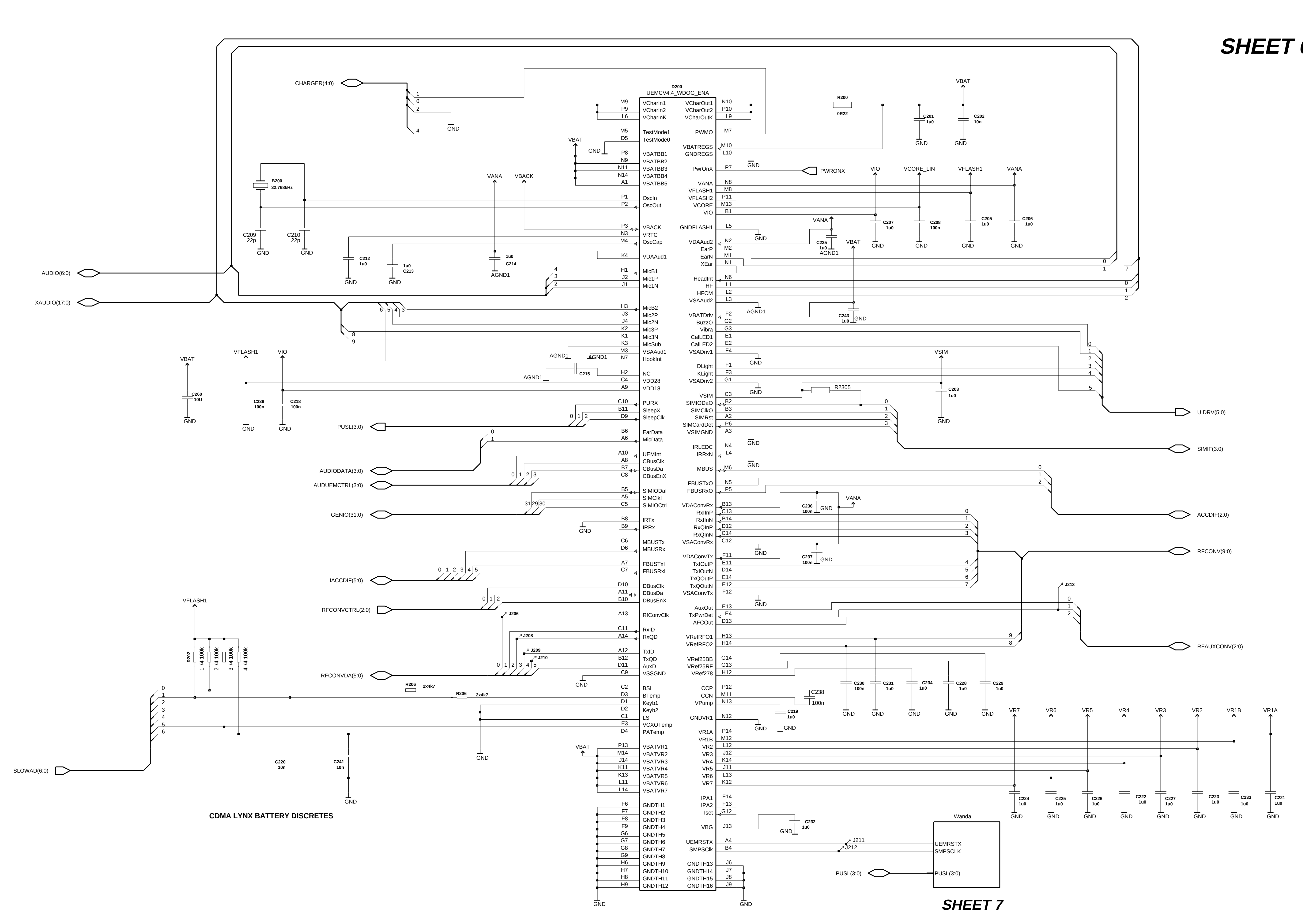


LCD Connector
X302
VIO
VFLASH1
VLED+
EAR(1:0)
GENIO(31:0)
LCDUI(2:0)
KEYB(10:0)
UIDRV(5:0)
PWRONX
IHF_P
IHF_N
B301
B300
R308
68R
R309
R310
Z300
EMIF10-1K010F2
ROW0
ROW1
ROW2
ROW3
ROW4
COL1
COL2
COL3
COL4
COL5
Send
End
Soft left
Up
Down
Soft right
These have different geometry
KLIGHT
DLIGHT
VIBRA
POWER SWITCH
VIBRA MOTOR
4CR-1002W-07
D301
BAV70W
N302
TK65600B-G
VBAT
WHITE LED'S
PUMT1
DTC143ZE
Q301
Q302
READ COMPONENT INFO!

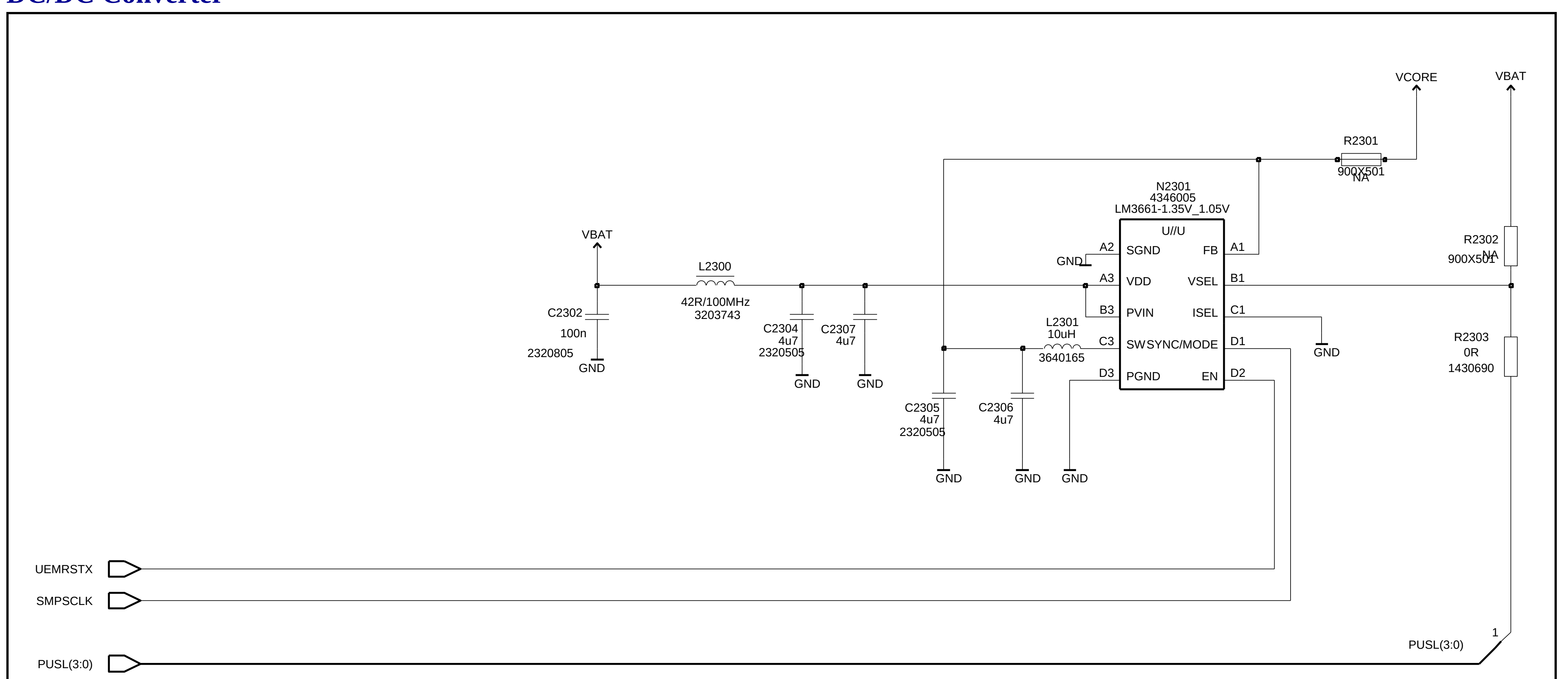
Audio


EAR(1:0)
"EARP"
"EARN"
"MICB1"
"MIC1P"
"MIC1N"
R178
1 /2 5R6
2 /2 5R6
Place at B300
/2 VWM16V ?
R179
GND
R170
1 /2 1k0
2x1k0
C180
100n
AGND1
R172
1 /2 1k0
C169
100n
R171
MIC(2:0)
MIC(1)
MIC(0)
AUDIO(6:0)
C178
39p
C179
39p
R173
C171
47p
C172
2 /2 1k0
AGND1
HEADINT
"HOOKINT"
"MICB2"
"MIC2P"
"MIC2N"
R150
C181
100n
XMIC(2:0)
"XMICP"
"XMICN"
R151
R155
C151
1/2 100n
2/2 100n
R152
C152
39p
C156
39p
C153
47p
XEAR(3:0)
"HFCM"
"HF"
R168
1 /2 5R6
2 /2 5R6
"XEARN"
"XEARP"
XAUDIO(17:0)
Capacitors should be placed near
N150, Audio Amplifier, and connected
to VBAT & GND pins.
VBAT
C174
100n
C175
1u0
C177
22p
GND
SPEAKER IS ON UI SHEET
IHF_P
IHF_N
IHF
AUDIO AMPLIFIER
L150
240R/100MHz
L151
240R/100MHz
IHF speaker connection
J305
J305_B
J306
J306_B
514B011
GENIO(31:0)
R154
470R
C165
NA
C155
22n
C164
2n2
C166
22n
R156
180k
B1,B2= GND
B3= VBAT
A1 -IN Vo2
A3 +IN Vo1
C3 _Shutdown
C1 Bypass
C167
1u0
R157
LM4890ITLXNOPB
N150
EDMS USE 4341429
28

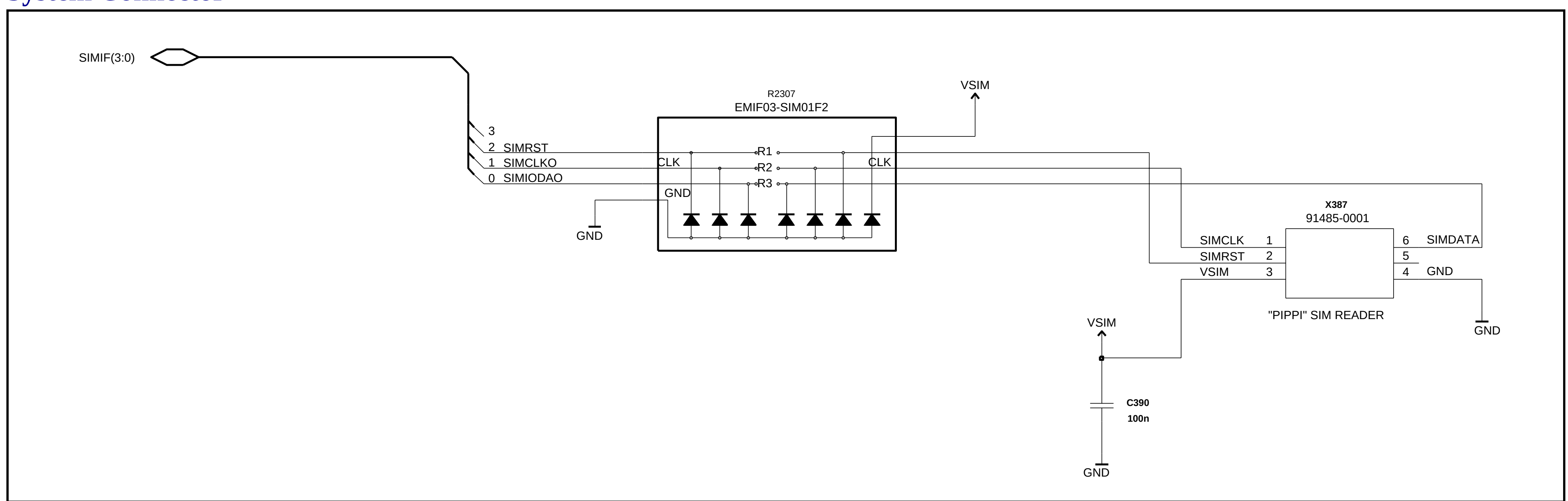
Power


SHEET 6
D200
UEMCV4.4_WDOG_ENA
CHARGER(4:0)
AUDIO(6:0)
XAUDIO(17:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
GENIO(31:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
SLOWAD(6:0)
UIDRV(5:0)
SIMIF(3:0)
ACCDIF(2:0)
RFCONV(9:0)
RFAUXCONV(2:0)
PWRONX
B200
32.768kHz
R200
0R22
R2305
CDMA LYNX BATTERY DISCRETES
Wanda
UEMRSTX
SMPSCLK
PUSL(3:0)
SHEET 7

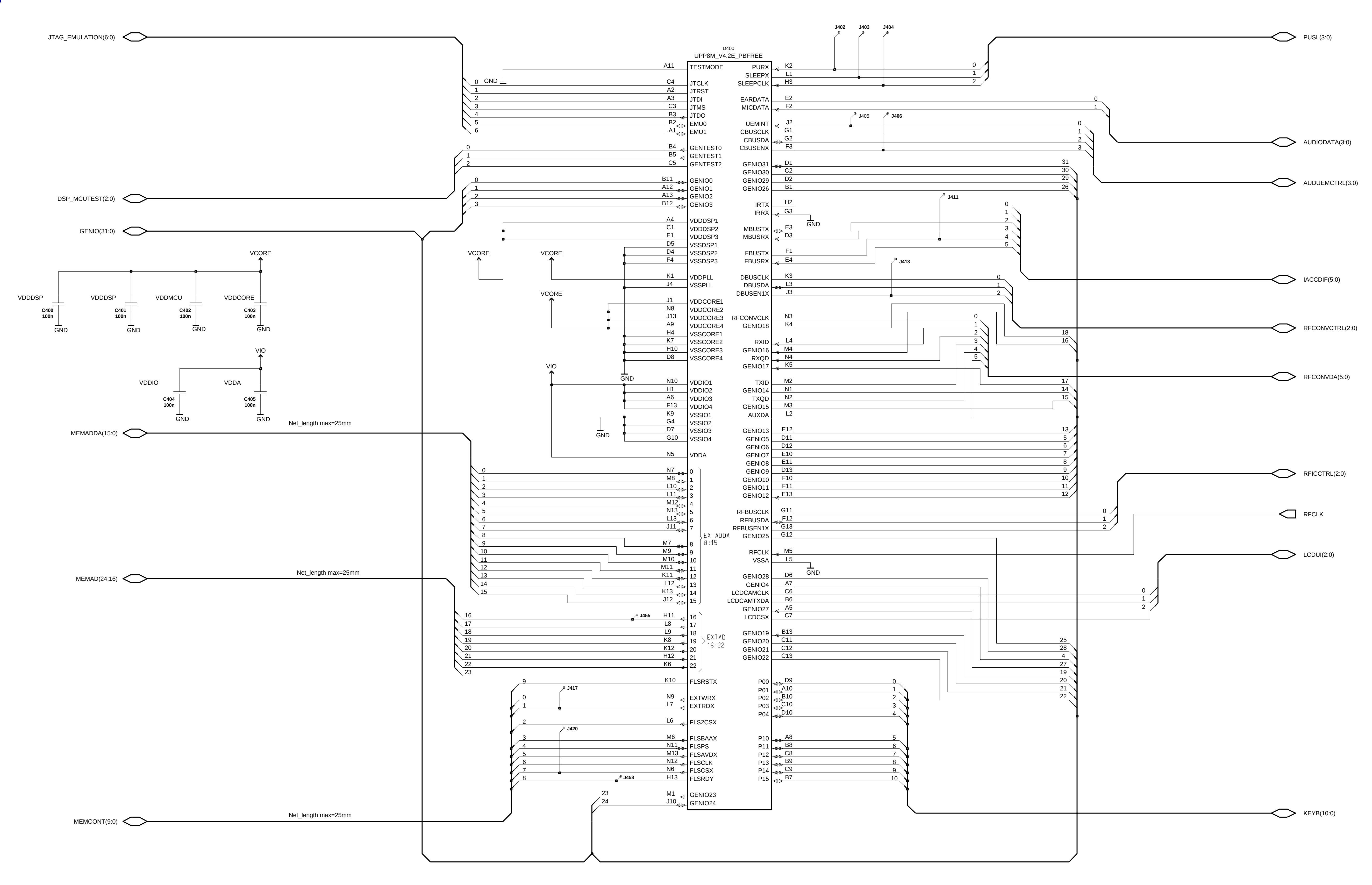
DC/DC Converter



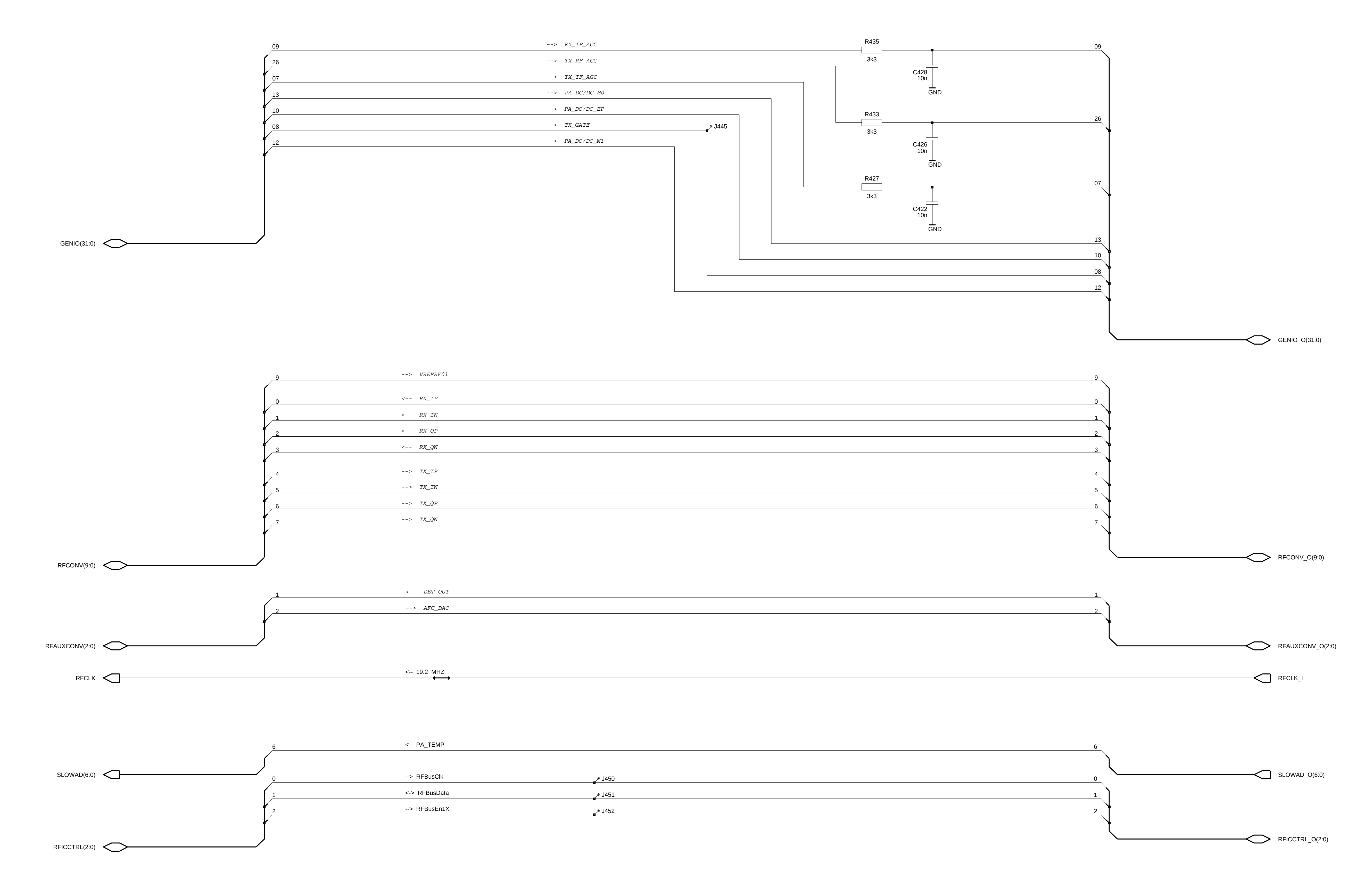
System Connector



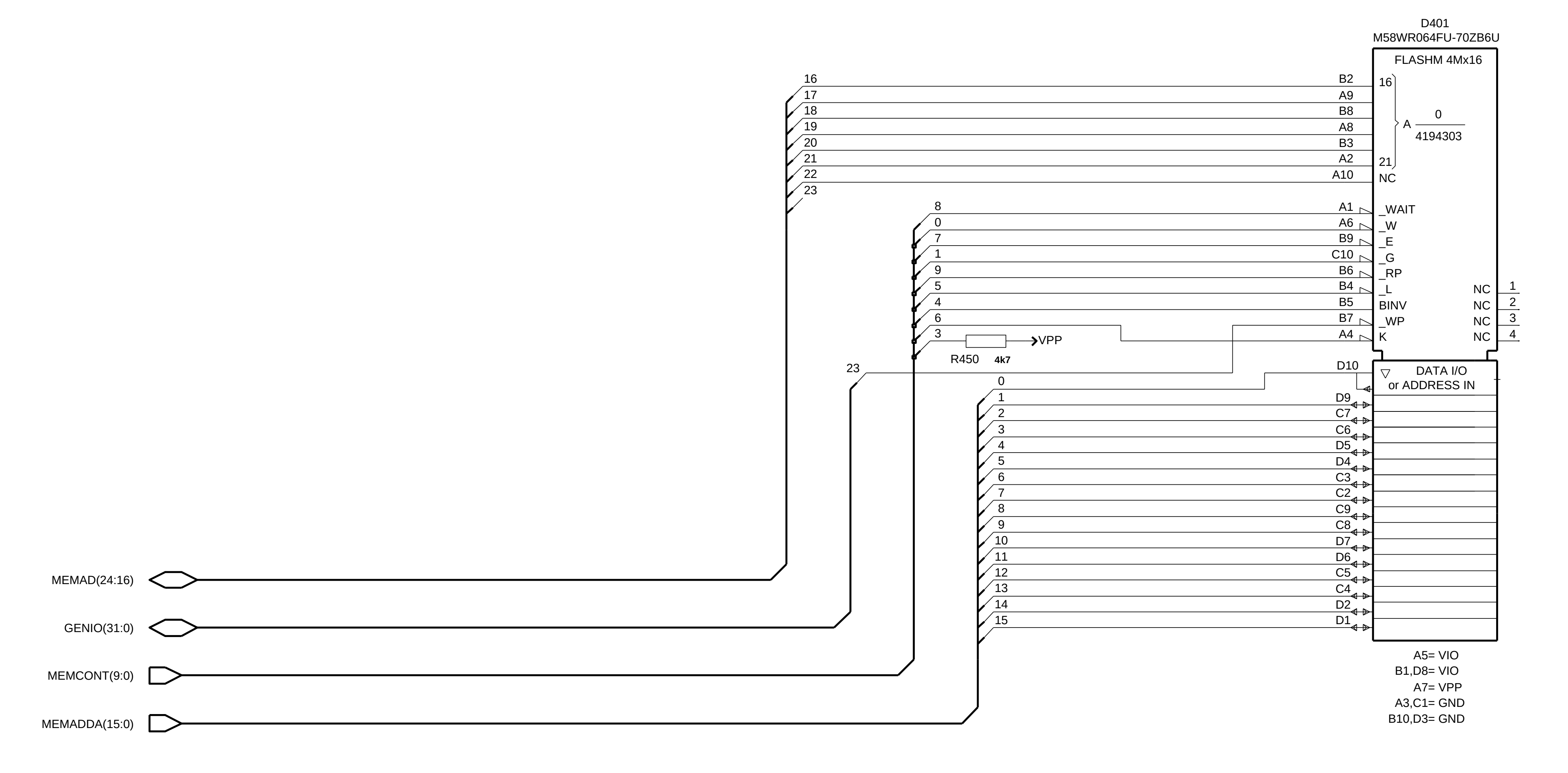
UPP

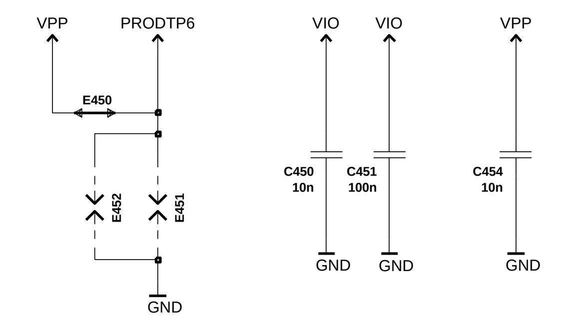

JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
GENIO(31:0)
MEMADDA(15:0)
MEMAD(24:16)
MEMCONT(9:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
RFICCTRL(2:0)
RFCLK
LCDUI(2:0)
KEYB(10:0)
D400
UPP8M_V4.2E_PBFREE
TESTMODE
JTCLK
JTRST
JTDI
JTMS
JTDO
EMU0
EMU1
GENTEST0
GENTEST1
GENTEST2
GENIO0
GENIO1
GENIO2
GENIO3
VDDDSP1
VDDDSP2
VDDDSP3
VSSDSP1
VSSDSP2
VSSDSP3
VDDPLL
VSSPLL
VDDCORE1
VDDCORE2
VDDCORE3
VDDCORE4
VSSCORE1
VSSCORE2
VSSCORE3
VSSCORE4
VDDIO1
VDDIO2
VDDIO3
VDDIO4
VSSIO1
VSSIO2
VSSIO3
VSSIO4
VDDA
EXTADDA 0:15
EXTAD 16:22
FLSRSTX
EXTWRX
EXTRDX
FLS2CSX
FLSBAAX
FLSPS
FLSAVDX
FLSCLK
FLSCSX
FLSRDY
GENIO23
GENIO24
PURX
SLEEPX
SLEEPCLK
EARDATA
MICDATA
UEMINT
CBUSCLK
CBUSDA
CBUSENX
GENIO31
GENIO30
GENIO29
GENIO26
IRTX
IRRX
MBUSTX
MBUSRX
FBUSTX
FBUSRX
DBUSCLK
DBUSDA
DBUSEN1X
RFCONVCLK
GENIO18
RXID
GENIO16
RXQD
GENIO17
TXID
GENIO14
TXQD
GENIO15
AUXDA
GENIO13
GENIO5
GENIO6
GENIO7
GENIO8
GENIO9
GENIO10
GENIO11
GENIO12
RFBUSCLK
RFBUSDA
RFBUSEN1X
GENIO25
RFCLK
VSSA
GENIO28
GENIO4
LCDCAMCLK
LCDCAMTXDA
GENIO27
LCDCSX
GENIO19
GENIO20
GENIO21
GENIO22
P00
P01
P02
P03
P04
P10
P11
P12
P13
P14
P15
VCORE
VIO
GND
VDDDSP
VDDMCU
VDDCORE
VDDIO
VDDA
C400 100n
C401 100n
C402 100n
C403 100n
C404 100n
C405 100n
Net_length max=25mm
J402
J403
J404
J405
J406
J411
J413
J417
J420
J455
J458

RF/BB Interface

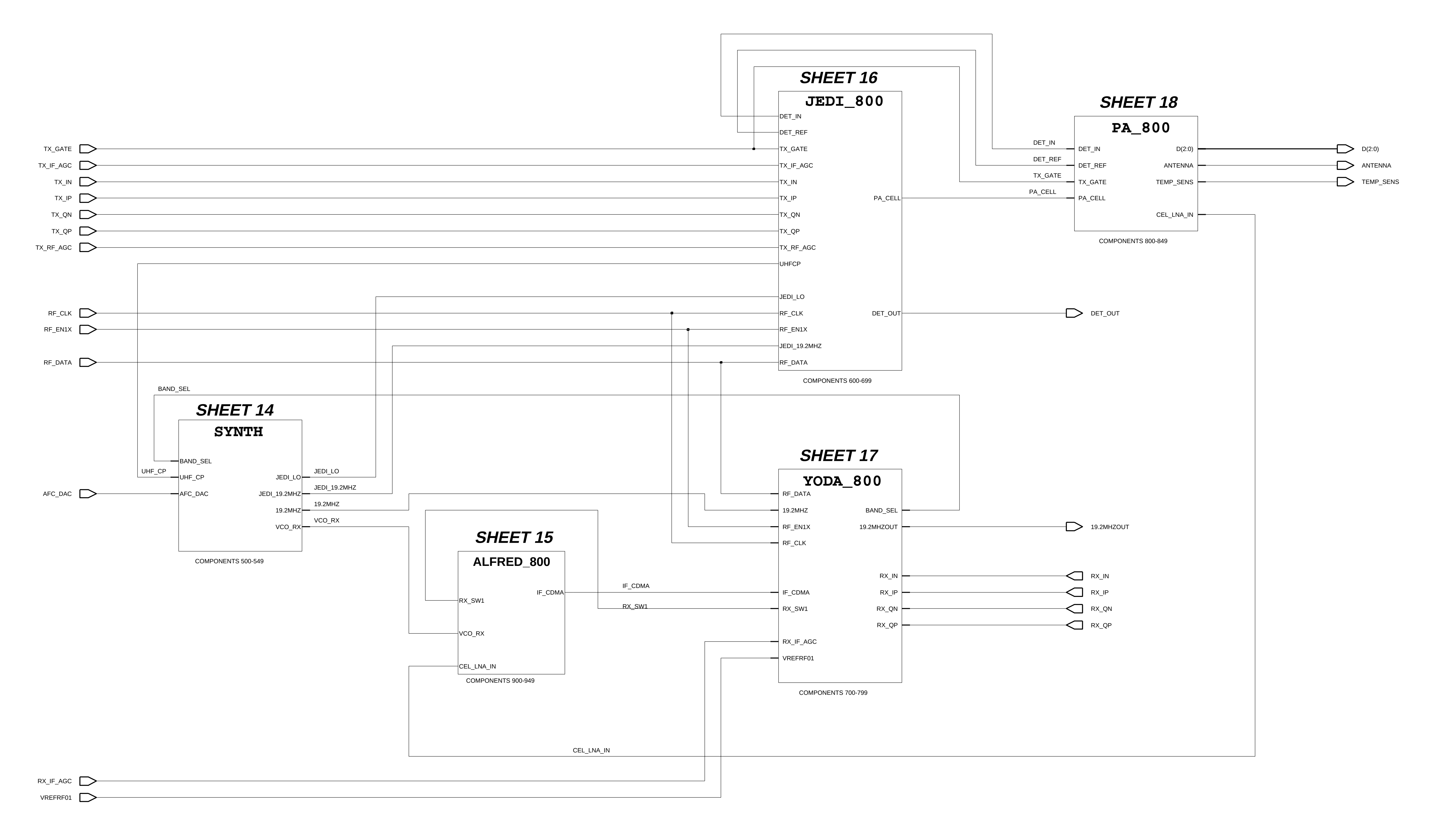


Memory

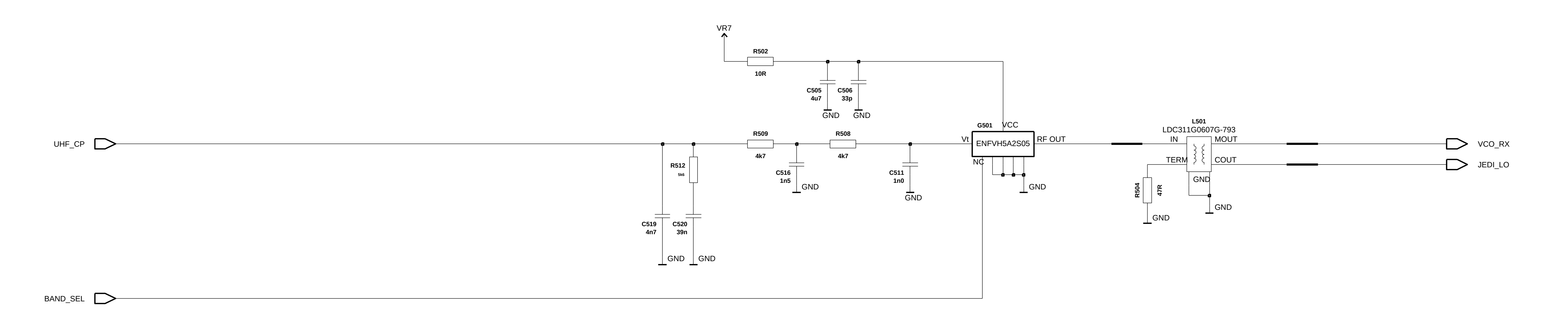

D401
M58WR064FU-70ZB6U
FLASHM 4Mx16
A
0
4194303
NC
_WAIT
_W
_E
_G
_RP
_L
BINV
_WP
K
NC
NC
NC
NC
DATA I/O
or ADDRESS IN
R450
4k7
VPP
MEMAD(24:16)
GENIO(31:0)
MEMCONT(9:0)
MEMADDA(15:0)
A5= VIO
B1,D8= VIO
A7= VPP
A3,C1= GND
B10,D3= GND

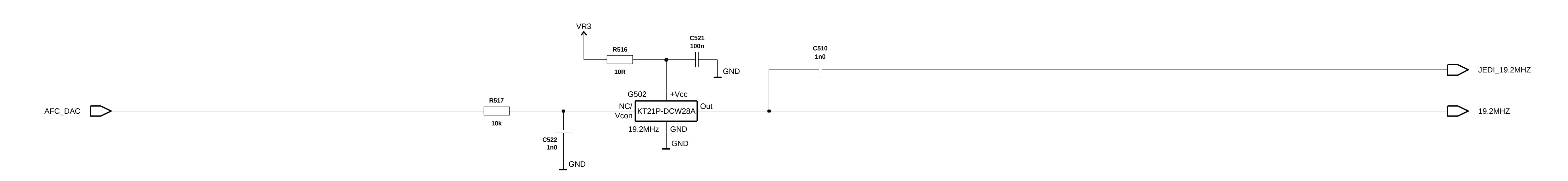

VPP
PRODTP6
E450
E452
E451
GND
VIO
VIO
VPP
C450
10n
C451
100n
C454
10n
GND
GND
GND

RF


SHEET 16
JEDI_800
DET_IN
DET_REF
TX_GATE
TX_IF_AGC
TX_IN
TX_IP
TX_QN
TX_QP
TX_RF_AGC
UHFCP
JEDI_LO
RF_CLK
RF_EN1X
JEDI_19.2MHZ
RF_DATA
PA_CELL
DET_OUT
COMPONENTS 600-699
SHEET 18
PA_800
DET_IN
DET_REF
TX_GATE
PA_CELL
D(2:0)
ANTENNA
TEMP_SENS
CEL_LNA_IN
COMPONENTS 800-849
SHEET 14
SYNTH
BAND_SEL
UHF_CP
AFC_DAC
JEDI_LO
JEDI_19.2MHZ
19.2MHZ
VCO_RX
COMPONENTS 500-549
SHEET 15
ALFRED_800
RX_SW1
VCO_RX
CEL_LNA_IN
IF_CDMA
COMPONENTS 900-949
SHEET 17
YODA_800
RF_DATA
19.2MHZ
RF_EN1X
RF_CLK
IF_CDMA
RX_SW1
RX_IF_AGC
VREFRF01
BAND_SEL
19.2MHZOUT
RX_IN
RX_IP
RX_QN
RX_QP
COMPONENTS 700-799
TX_GATE
TX_IF_AGC
TX_IN
TX_IP
TX_QN
TX_QP
TX_RF_AGC
RF_CLK
RF_EN1X
RF_DATA
AFC_DAC
RX_IF_AGC
VREFRF01
DET_OUT
19.2MHZOUT
D(2:0)
ANTENNA
TEMP_SENS
BAND_SEL
UHF_CP
CEL_LNA_IN

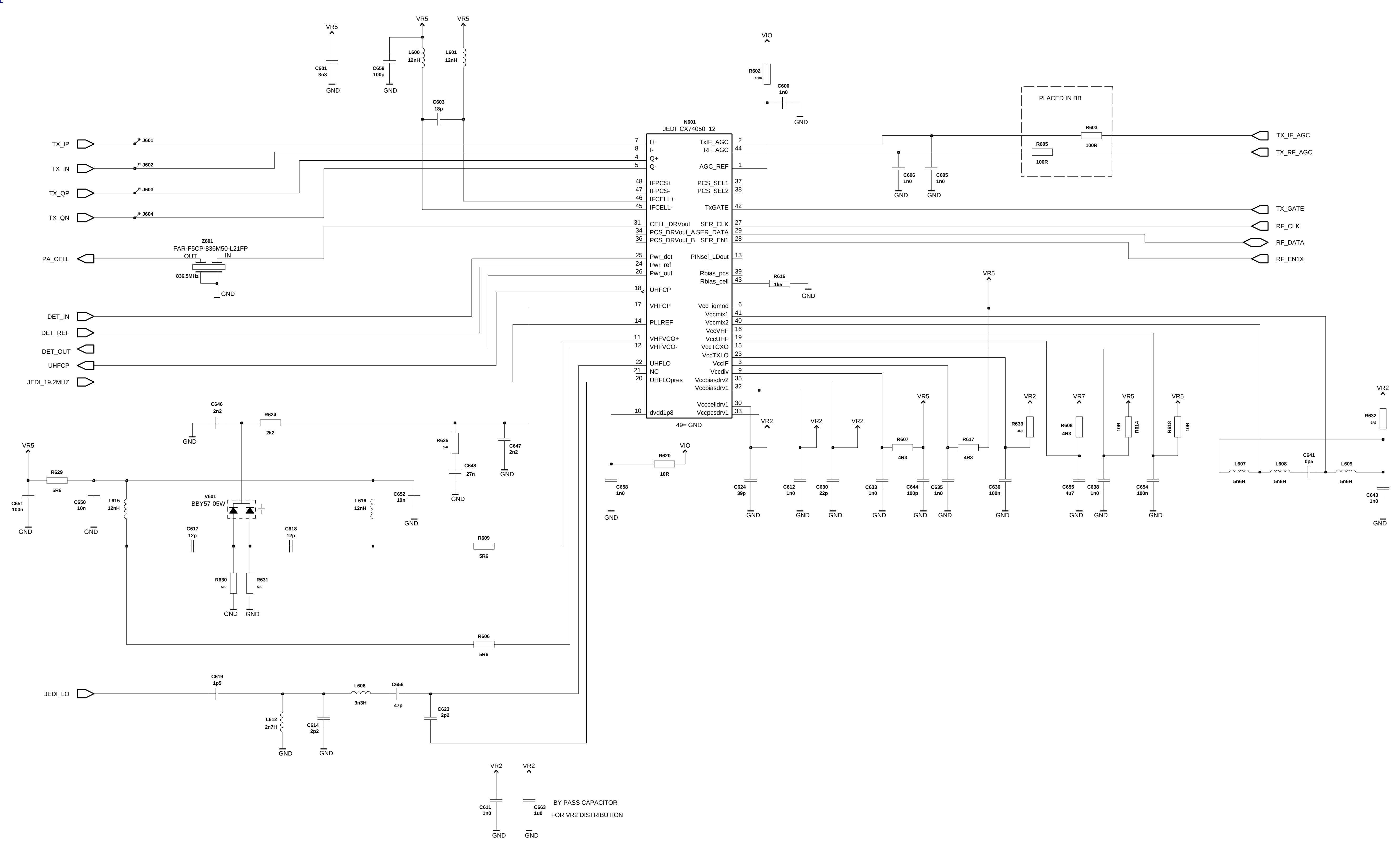
Synthesizer



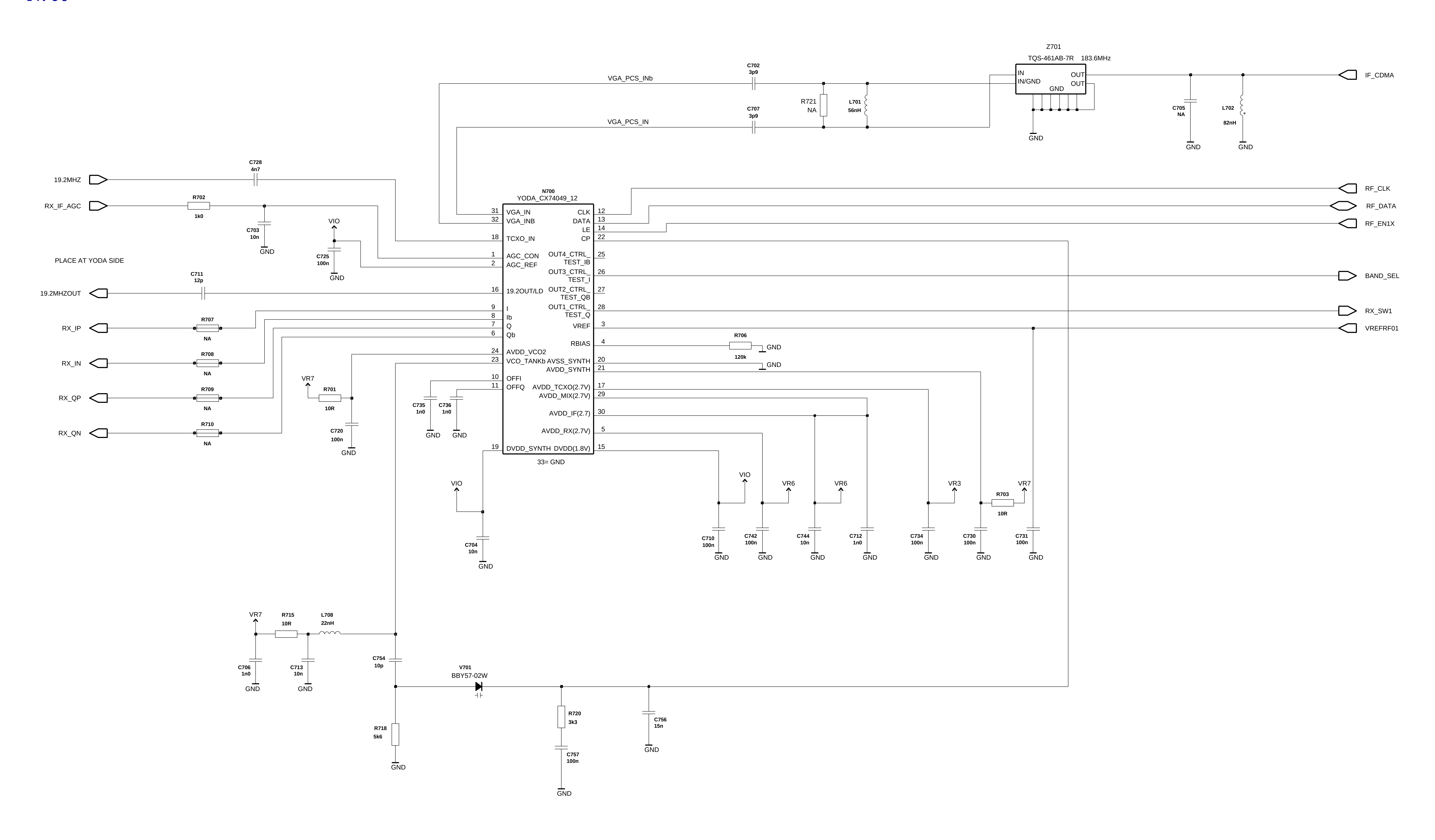


Universe VCTCXO

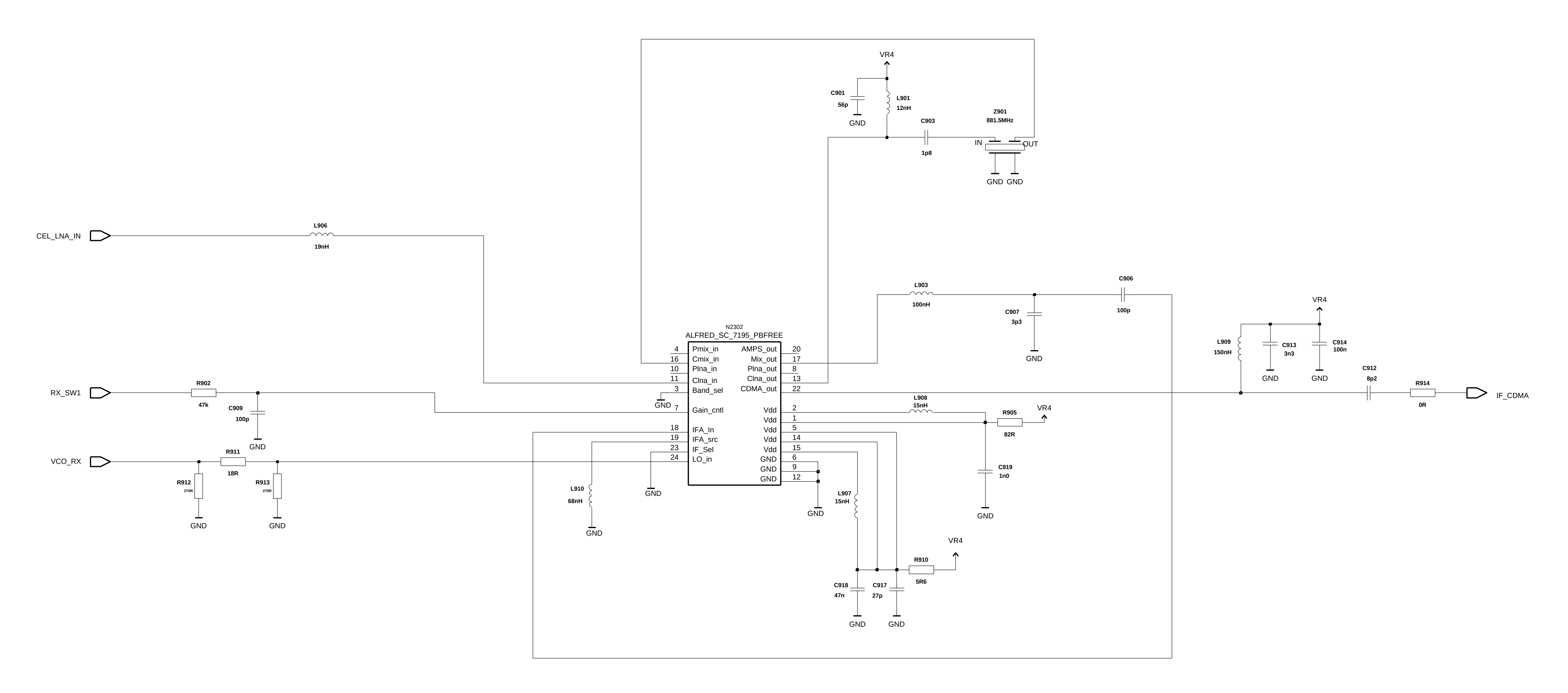
N601



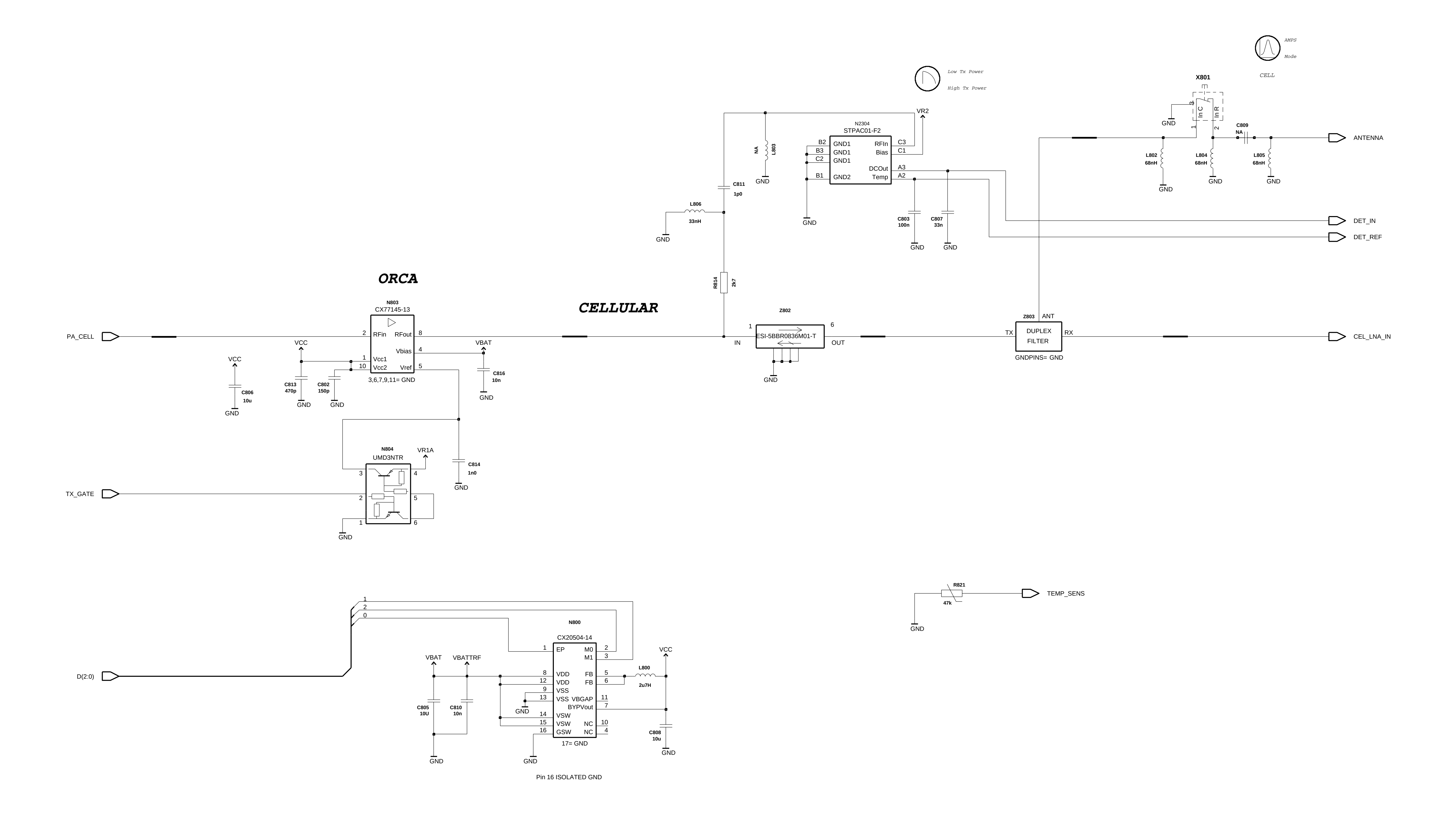
N700


Z701
TQS-461AB-7R 183.6MHz
IF_CDMA
VGA_PCS_INb
VGA_PCS_IN
N700
YODA_CX74049_12
19.2MHZ
RX_IF_AGC
PLACE AT YODA SIDE
19.2MHZOUT
RX_IP
RX_IN
RX_QP
RX_QN
RF_CLK
RF_DATA
RF_EN1X
BAND_SEL
RX_SW1
VREFRF01
33= GND
V701
BBY57-02W

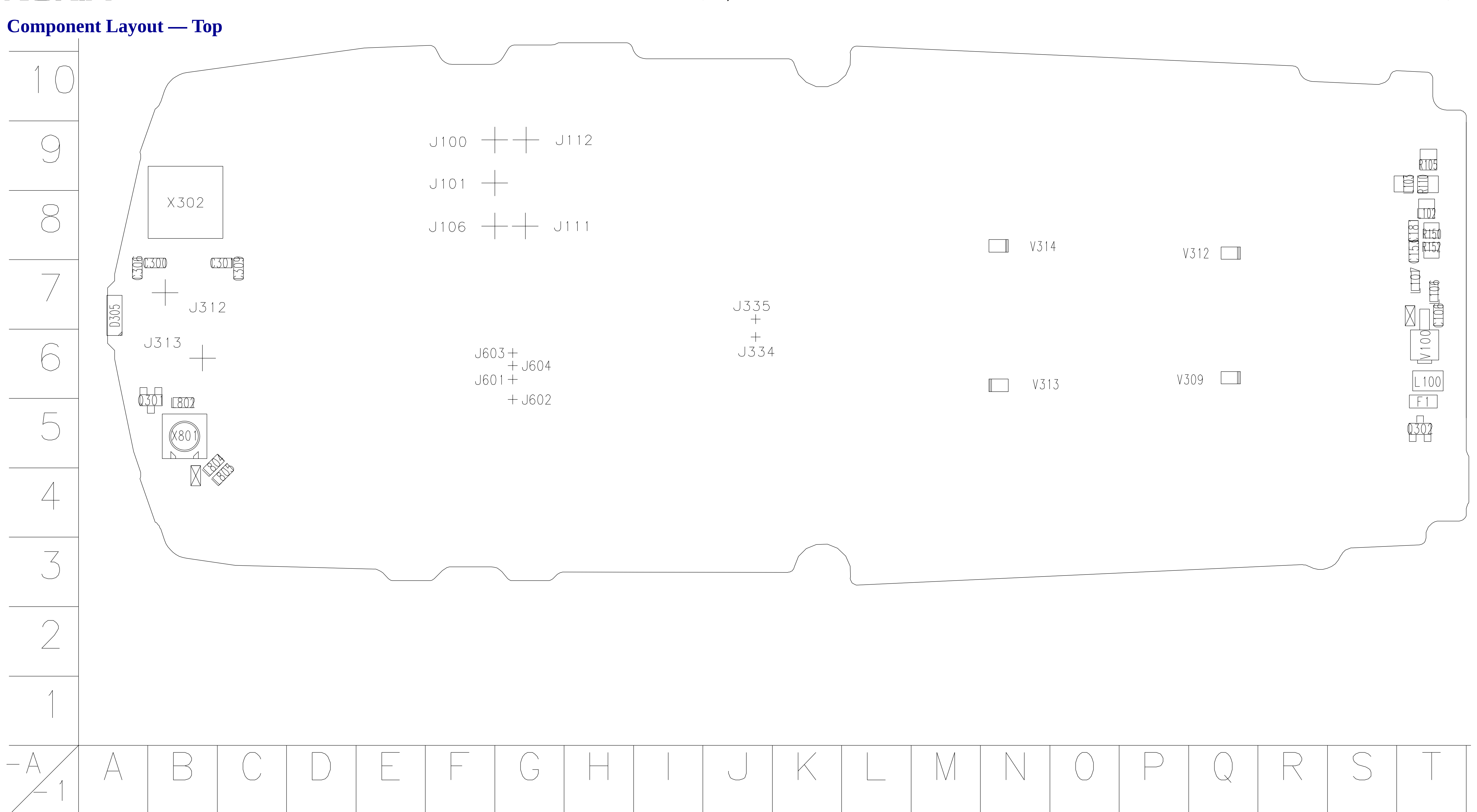
N2302


VR4
C901
56p
GND
L901
12nH
C903
1p8
Z901
881.5MHz
IN
OUT
GND GND
CEL_LNA_IN
L906
19nH
L903
100nH
C906
100p
C907
3p3
GND
VR4
N2302
ALFRED_SC_7195_PBFREE
Pmix_in
Cmix_in
Plna_in
Clna_in
Band_sel
Gain_cntl
IFA_In
IFA_src
IF_Sel
LO_in
AMPS_out
Mix_out
Plna_out
Clna_out
CDMA_out
Vdd
GND
L909
150nH
C913
3n3
C914
100n
C912
8p2
R914
0R
IF_CDMA
RX_SW1
R902
47k
C909
100p
L908
15nH
R905
82R
VCO_RX
R911
18R
R912
270R
R913
270R
L910
68nH
L907
15nH
C919
1n0
R910
5R6
C918
47n
C917
27p

PA


ORCA
CELLULAR
N803
CX77145-13
RFin
RFout
Vbias
Vcc1
Vcc2
Vref
3,6,7,9,11= GND
PA_CELL
VCC
VBAT
C806
10u
C813
470p
C802
150p
C816
10n
N804
UMD3NTR
VR1A
C814
1n0
TX_GATE
L806
33nH
C811
1p0
R814
2k7
L803
NA
N2304
STPAC01-F2
GND1
GND2
RFin
Bias
DCOut
Temp
VR2
C803
100n
C807
33n
Low Tx Power
High Tx Power
AMPS
Mode
CELL
X801
C809
NA
L802
68nH
L804
68nH
L805
68nH
ANTENNA
DET_IN
DET_REF
Z802
ESI-5BBR0836M01-T
IN
OUT
Z803
DUPLEX
FILTER
ANT
TX
RX
GNDPINS= GND
CEL_LNA_IN
R821
47k
TEMP_SENS
D(2:0)
N800
CX20504-14
EP
M0
M1
VDD
VSS
VBGAP
BYPVout
VSW
GSW
FB
NC
17= GND
VBAT
VBATTRF
C805
10U
C810
10n
L800
2u7H
VCC
C808
10u
GND
Pin 16 ISOLATED GND

Component Layout — Top



Component Layout — Bottom

